

THAT WHICH IS CLAIMED IS:

1. A method for correcting vision, comprising the steps of:
 - a. selecting an eye for treatment;
 - b. creating a surface flap of corneal tissue and folding the surface flap aside to expose a corneal surface having a corneal surface area;
 - c. applying at least a first laser shot and a second laser shot to the corneal surface area, each of the laser shots spaced apart from each other and having,
 - i) a wavelength sufficient to cause ablation of the corneal surface,
 - ii) a center point and an area less than the corneal surface area;
 - d. spacing the center point of the first laser shot apart from the center point of the second laser shot so that any plume of ablated material caused by the first laser shot will not substantially interfere with the second laser shot's ablation of the corneal surface; and
 - e. repeating steps c and d a sufficient number of times to effect a desired vision correction for the selected eye.
2. A method for correcting vision, comprising the steps of:
 - a. selecting an eye for treatment;
 - b. creating a surface flap of corneal tissue and folding the surface flap aside to expose a corneal surface having a corneal surface area;
 - c. applying at least a first laser shot, a second laser shot and a third laser shot to the corneal surface area, each of the laser shots spaced apart from each other and having,
 - i) a wavelength sufficient to cause ablation of the corneal surface,
 - ii) a center point and an area less than the corneal surface area;

12 d. spacing the center point of the first laser shot apart from the center
13 point of the second laser shot so that any plume of ablated material caused by the first
14 laser shot will not substantially interfere with the second laser shot's ablation of the
15 corneal surface;

16 e. spacing the center point of the third laser shot apart from the center
17 points of the first laser shot and the second laser shot so that any plume of ablated
18 material caused by the first laser shot or by the second laser shot will not substantially
19 interfere with the third laser shot's ablation of the corneal surface;

20 f. repeating steps c, d and e a sufficient number of times to effect a
21 desired vision correction for the selected eye.

1 3. A method for correcting vision, comprising the steps of:

2 a. selecting an eye for treatment;
3 b. creating a surface flap of corneal tissue and folding the surface flap
4 aside to expose a corneal surface having a corneal surface area;

5 c. applying a plurality of laser shots to the corneal surface area, each
6 of the laser shots spaced apart from each other and having,

7 i) a wavelength sufficient to cause ablation of the
8 corneal surface,

9 ii) a center point and an area less than the corneal
10 surface area;

11 d. spacing the center point of each laser shot apart in time or distance
12 from the center point of a previous laser shot so that any plume of ablated material
13 caused by the previous laser shot will not substantially interfere with any subsequent
14 laser shot's ablation of the corneal surface; and

15 e. repeating steps c and d a sufficient number of times to effect a
16 desired vision correction for the selected eye.

1 4. A method for correcting vision, comprising the steps of:

2 a. selecting a corneal surface area of an eye for treatment;

3 b. applying at least a first laser shot and a second laser shot to the
4 corneal surface area, each of the laser shots spaced apart from each other and having,
5 i) a wavelength sufficient to cause ablation of the
6 corneal surface,
7 ii) a center point and an area less than the corneal
8 surface area;
9 c. spacing the center point of the first laser shot apart from the center
10 point of the second laser shot so that any plume of ablated material caused by the first
11 laser shot will not substantially interfere with the second laser shot's ablation of the
12 corneal surface; and
13 d. repeating steps b and c a sufficient number of times to effect a
14 desired vision correction for the selected eye.

1 5. A method for correcting vision, comprising the steps of:

2 a. selecting a corneal surface area of an eye for treatment, the
3 corneal surface area being either an external surface of the eye or an exposed internal
4 surface of the eye; and
5 b. applying a plurality of laser beam shots to the corneal surface area
6 in a pattern, the pattern sufficient to locate the center point of each laser shot apart in
7 time or distance from the center point of a previous laser shot so that any plume of
8 ablated material caused by the previous laser shot will not substantially interfere with
9 any subsequent laser shot's ablation of the corneal surface.

1 6. A method for correcting vision, comprising the steps of:

2 a. selecting an eye for treatment;
3 b. creating a surface flap of corneal tissue and folding the surface flap
4 aside to expose a corneal surface having a corneal surface area;
5 c. applying at least a first laser shot and a second laser shot to the
6 corneal surface area, each of the laser shots spaced apart from each other in time and
7 distance and having,

- 8 i) a wavelength sufficient to cause ablation of the
9 corneal surface,
10 ii) an area less than the corneal surface area;
11 d. spacing the first laser shot apart in time from the second laser shot
12 so that any plume of ablated material caused by the first laser shot will not substantially
13 interfere with the second laser shot's ablation of the corneal surface; and
14 e. repeating steps c and d a sufficient number of times to effect a
15 desired vision correction for the selected eye.

- 1 7. A method for correcting vision, comprising the steps of:
2 a. selecting an eye for treatment;
3 b. creating a surface flap of corneal tissue and folding the surface flap
4 aside to expose a corneal surface having a corneal surface area;
5 c. applying at least a first laser shot, a second laser shot and a third
6 laser shot to the corneal surface area, each of the laser shots spaced apart from each
7 other in time and distance and having,
8 i) a wavelength sufficient to cause ablation of the
9 corneal surface,
10 ii) an area less than the corneal surface area;
11 d. spacing the first laser shot apart in time from the second laser shot
12 so that any plume of ablated material caused by the first laser shot will not substantially
13 interfere with the second laser shot's ablation of the corneal surface;
14 e. spacing the third laser shot apart in time from the first laser shot
15 and the second laser shot so that any plume of ablated material caused by the first
16 laser shot or by the second laser shot will not substantially interfere with the third laser
17 shot's ablation of the corneal surface;
18 f. repeating steps c, d and e a sufficient number of times to effect a
19 desired vision correction for the selected eye.

- 1 8. A method for correcting vision, comprising the steps of:

- a. selecting a corneal surface area of an eye for treatment;
- b. applying at least a first laser shot and a second laser shot to the corneal surface area, each of the laser shots spaced apart from each other in time and distance and having,
 - i) a wavelength sufficient to cause ablation of the corneal surface,
 - ii) an area less than the corneal surface area;
- c. spacing the first laser shot apart in time from the second laser shot so that any plume of ablated material caused by the first laser shot will not substantially interfere with the second laser shot's ablation of the corneal surface; and
- d. repeating steps b and c a sufficient number of times to effect a desired vision correction for the selected eye.

9. A method for correcting vision, comprising the steps of:

- a. selecting a corneal surface area of an eye for treatment, the corneal surface area being either an external surface of the eye or an exposed internal surface of the eye;
- b. applying at least a first laser shot, a second laser shot and a third laser shot to the corneal surface area, each of the laser shots spaced apart from each other and having,
 - i) a wavelength sufficient to cause ablation of the corneal surface,
 - ii) a center point and an area less than the corneal surface area;
- c. spacing the center point of the first laser shot apart from the center point of the second laser shot so that any plume of ablated material caused by the first laser shot will not substantially interfere with the second laser shot's ablation of the corneal surface;
- d. spacing the center point of the third laser shot apart from the center points of the first laser shot and the second laser shot so that any plume of ablated

material caused by the first laser shot or by the second laser shot will not substantially interfere with the third laser shot's ablation of the corneal surface;

e. repeating steps b, c and d a sufficient number of times to effect a desired vision correction for the selected eye.

10. A method for correcting vision, comprising the steps of:

a. selecting a corneal surface area of an eye for treatment, the corneal surface area being either an external surface of the eye or an exposed internal surface of the eye;

b. applying at least a first laser shot, a second laser shot and a third laser shot to the corneal surface area, each of the laser shots spaced apart from each other in distance and time and having,

i) a wavelength sufficient to cause ablation of the corneal surface,

ii) an area less than the corneal surface area;

c. spacing the first laser shot apart in time from the second laser shot so that any plume of ablated material caused by the first laser shot will not substantially interfere with the second laser shot's ablation of the corneal surface;

d. spacing the third laser shot apart in time from the first laser shot and the second laser shot so that any plume of ablated material caused by the first laser shot or by the second laser shot will not substantially interfere with the third laser shot's ablation of the corneal surface;

e. repeating steps b, c and d a sufficient number of times to effect a desired vision correction for the selected eye.